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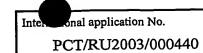
INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)					
International application No.	International filing date (day/n	ionth/year)	Priority date (day/month/year)			
PCT/RU2003/000440	16 October 2003 (16.1	0.2003)	23 October 2002 (23.10.2002)			
International Patent Classification (IPC) or n C10M 159/18	ational classification and IPC					
Applicant INSTITUT NEFTEKHIMICH	ESKOGO SINTEZA RAI	N IM. A. V	. TOPCHIEVA (INKhS RAN)			
 This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. 						
2. This REPORT consists of a total of4 sheets, including this cover sheet. This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).						
These annexes consist of a to	otal of sheets.					
3. This report contains indications rela	ting to the following items:					
I Basis of the report						
II Priority						
III Non-establishment	of opinion with regard to novelty	y, inventive st	ep and industrial applicability			
IV Lack of unity of inv	ention					
V Reasoned statement citations and explan	t under Article 35(2) with regard actions supporting such statemen	to novelty, in	eventive step or industrial applicability;			
VI Certain documents cited						
VII Certain defects in the	ne international application					
VIII Certain observations on the international application						
Date of submission of the demand	Date of completion of this report		of this report			
18 May 2004 (18.05.2	2004)	16 No	ovember 2004 (16.11.2004)			
Name and mailing address of the IPEA/RU	Author	Authorized officer				
Facsimile No.	Teleph	ione No.				







I. Basis of the report								
1. With regard to the elements of the international application:*								
	Z t	the inter	mational application as originally filed					
	i t	the desc	ription:					
	I	pages	, as originally filed					
	1	pages	, filed with the demand					
	1	pages	, filed with the letter of					
Г	一 ,	the clair						
L		pages	, as originally filed					
		pages	, as amended (together with any statement under Article 19					
		pages	, filed with the domain					
		pages	, filed with the letter of					
l	\neg	the drav	wings:					
۱ ٔ			, as originally filed					
		pages	, filed with the demand					
		pages	, filed with the letter of					
l	T th	ne seaue	ence listing part of the description:					
۱ '		pages	, as originally filed					
l		pages	, filed with the definant					
		pages	, filed with the letter of					
	With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language which is:							
		the lar	aguage of a translation furnished for the purposes of international search (under Rule 23.1(b)).					
İ		the lar	regage of publication of the international application (under Rule 48.3(b)).					
		the lan	nguage of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/3).					
3.	With	regard	to any nucleotide and/or amino acid sequence disclosed in the international application, the international examination was carried out on the basis of the sequence listing:					
1		-	ned in the international application in written form.					
	H		ogether with the international application in computer readable form.					
İ	Ħ		hed subsequently to this Authority in written form.					
	Ħ	furnic	hed subsequently to this Authority in computer readable form.					
		The s	statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the					
		The s	statement that the information recorded in computer readable form is identical to the written sequence listing has furnished.					
4.		The a	mendments have resulted in the cancellation of:					
İ			the description, pages					
		\sqcap	the claims, Nos.					
		Ħ	the drawings, sheets/fig					
5.		This r	eport has been established as if (some of) the amendments had not been made, since they have been considered to go d the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**					
	Replain th		t sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to ort as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16					
*		70 171	ment sheet containing such amendments must be referred to under item 1 and annexed to this report.					

INTERNATIONAL PRESENTINARY EXAMINATION REPORT

In	onal application No.	
PCT/	RU	03/00440

v.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement						
1.	Statement						
	Novelty (N)	Claims	1-4	YES			
ĺ		Claims		NO			
	Inventive step (IS)	Claims	1-4	YES			
		Claims		NO			
	Industrial applicability (IA)	Claims	1-4	YES			
		Claims		NO			

2. Citations and explanations

D1: WP 2001/094504 A2

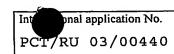
D1 describes a method for producing an additive to lubricating materials in the form of nano-size surface-modified particles of molybdenum trisulphide by forming a microemulsion of an oil-soluble surfactant substance in an organic solvent and an aqueous solution of a water-soluble inorganic compound of hexavalent molybdenum; and by adding the surfactant substance (selected from the same class of compounds as in the claimed method) for modifying the molybdenum trisulphide with subsequent removal of the water from the microemulsion, separation of the molybdenum trisulphide in the form of surface-modified particles, extraction by means of a suitable solvent and removal of

The method described in D1 is the closest prior art.

The method according to claim 1 differs from the method described in D1 in that a mixture, homogenised in a polar solvent, of thiomolybdenum acid salt with one of the modifiers indicated in claim 1 is subjected to heat treatment, followed by cooling of the mixture and addition of another modifier. Moreover, the claimed method excludes the use of aqueous solutions and diluted organic solutions, thereby simplifying the process of producing the additive.

the latter.

INTERNATIONAL PREDMINARY EXAMINATION REPORT



The method according to claim 2 differs from the method described in D1 in that inorganic sulphide or polysulphide or thiouric acid is used instead of hydrogen sulphide, and in that the mixture of molybdenum acid salt and sulphide with one of the modifiers characterised in claim 2, homogenised in a polar solvent, is subjected to heat treatment, followed by cooling of the mixture and addition of another modifier.

The claimed method excludes the use of aqueous solutions, diluted organic solutions and hydrogen sulphide, thereby simplifying the additive production process.

It is not obvious to a person skilled in that art that heating the mixture and excluding the use of aqueous solutions will produce an additive with a monodispersed distribution according to particle size.

Therefore claims 1-4 meet the requirements of novelty, inventive step and industrial applicability.

INTERNATIONAL PRED MARY EXAMINATION REPORT



Supplemental Box (To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:VII

- 1. In describing the method, when describing the heat treatment stage, claim 2 does not mention inorganic sulphide. Furthermore, the alternative concerning "the use of a mixture of the first and second modifiers and subsequent addition of the mixture of the first and second modifier", as stated in claim 2, is not based on the description, and is meaningless.
- 2. A mistake has been made in describing example
 12: if it is performed in accordance with example 1, the
 latter uses propanol, and not methanol.
- 3. The description of examples 21 and 22 does not correspond to the set of claims and table 1, as it does not mention a second modifier.
- 4. The molybdenum content mentioned for examples 1 and 22 in the table on page 9 does not coincide with the values stated in examples 1 and 22.